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Your file *Votre référence*

3AM-IQA1626

Our file *Notre référence*
26-HCAA-00091

October 5, 2026

Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

Subject: Fisheries and Oceans Canada's Final Submission for the Licence Renewal and Amendment Hearing RE: City of Iqaluit Type A Water Licence No. 3AM-IQA1626

Dear Richard Dwyer,

As requested by the Nunavut Water Board (NWB) in the "Notice of Public Hearing" dated August 26, 2026, the Fish and Fish Habitat Protection Program of Fisheries and Oceans Canada (DFO) is filing a final written submission regarding the City of Iqaluit Type "A" Water Licence Renewal and Amendment Application in accordance with its mandate, i.e. the management, protection and conservation of fish and their habitats.

DFO provides four technical comments, one new and three ongoing, related to the potential impacts from blasting (DFO-01), increased water withdrawal (DFO-02, DFO-03, DFO-04 and DFO-5), and monitoring (DFO-06). DFO is of the opinion that the concerns raised in this document should be discussed and addressed during the Water Licence renewal and amendment proceedings as they may be shared by other regulators (e.g., Environment and Climate Change Canada, and Crown-Indigenous Relations and Northern Affairs Canada) and impacted communities and organizations.

If you have any questions, please contact Jennifer Loughery by email Jennifer.Loughery@dfo-mpo.gc.ca. Please refer to the file number referenced above.

Sincerely,

Holly Simpson
A/ Senior Biologist
Fish and Fish Habitat Protection Program
Fisheries and Oceans Canada
Arctic Region

Fisheries and Oceans Canada
Pêches et Océans Canada



FISHERIES AND OCEANS CANADA

Final Submission – Public Hearing

City of Iqaluit – **Type A Water Licence Renewal and Amendment Application**

Submitted to: **Nunavut Water Board**

November 9-10, 2026

File No.: 3AM-IQA1626
DFO file: 26-HCAA-00091

Canada

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Executive Summary

The mandate of Fisheries and Oceans Canada's Fish and Fish Habitat Protection Program (DFO) is to protect all fish and fish habitat. The City of Iqaluit (the Proponent) submitted a Type A Water Licence Renewal and Amendment Application (3AM-IQA1626) to the Nunavut Water Board on December 31, 2025. DFO conducted the review of the Water Licence Renewal Application to ensure that works, activities and undertakings are conducted in such a way that the Proponents are in compliance with the applicable provisions of the *Fisheries Act*, and whether the information provided was sufficient to make such a determination. DFO's technical comments focused on the impacts of increased water withdrawal from Lake Qikiqtalik, and Niaqunguk (Apex) River and the use of explosives. This document presents DFO's final submission following the circulation of the Draft Water License.

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ᑎᓪᓗᐅᓯᒪᔭᕐᑎᖏᓪᓕ ᐃᖃᓗᓪᓚᕆᔨᒃᑯᓪᓕ ᐊᒻᒪ ᐃᒪᖏᐅᑕᓪᓚᕆᔨᒃᑯᓪᓕ ᑲᓇᑕᒥ ᐃᖃᓗᓐᓄᓪᓕ ᐊᒻᒪ ᐃᖃᓗᐃᑦ ᓇᔨᖏᓐᖃᖅᖏᖏᓪᓕ ᓴᐳᔪᐅᓯᒪᓂᖏᓐᓄᓪᓕ ᐱᓪᓚᐊᖅ (DFO) ᓴᐳᔪᐅᓯᒪᓴᐊᖅᖃᖅᑐᑦ ᐃᖃᓗᓐᓚᒋᑎᐊᓪᓕ ᐊᒻᒪ ᐃᖃᓗᐃᑦ ᓇᔨᖃᖅᖁᖏᓪᓕ. ᓄᓇᓪᓕᐊᐅᔪᒃᑯᓪᓕ ᐃᖃᓗᓐᓂᓂ (ᑐᙵᔨᕋᐅᑎᓪᓚᐅᖅᖃᖅᑐᖅ) ᑐᓂᔨᓪᓚᐅᑦᑐᖅ ᖃᓄᐃᓪᒐᓂᖏᓐᖁ ᐃ ᐃᒪᓕᒃᓗᑦ ᓪᓚᐃᔨᔨᒥᒃ ᓄᒋᓐᖏᓚᐊᖅᑎᓪᑎᙵᑎᒥᒃ ᐊᒻᒪ ᐊᖅᑭᑦᐊᕈᑎᒥᒃ ᑐᙵᔨᕋᐅᑎᒥᒃ (3AM-IQA1626) ᓄᓇᕗᒻᒥ ᐃᒪᖏᐅᑕᓪᓚᕆᔨᒃᑯᓪᓕ ᖃᑎᒌᓐᓇᓪᓕ ᑭᙵᔪᒥᒃ 31, 2025–ᒥ. ᐃᖃᓗᓪᓚᕆᔨᒃᑯᓪᓕ ᐊᒻᒪ ᐃᒪᖏᐅᑕᓪᓚᕆᔨᒃᑯᓪᓕ ᖃᑎᖏᑕᓪᓕᐅᑦᑐᓪᓕ ᐃᒪᓕᒃᓗᑦ ᓪᓚᐃᔨᔨᒥᒃ ᓄᒋᓐᖏᓚᐊᖅᑎᓪᑎᙵᑎᓗᓪᓕ ᑐᙵᔨᕋᐅᑎᒥᒃ ᐱᓪᓚᐊᖅᑐᑦ, ᖃᓄᐃᓪᓕᐅᕈᑕᐅᔪᑦ ᐊᒻᒪ ᐱᓪᓚᐊᖅᓴᓪᓕᐊᔪᑦ ᐱᓪᓚᐊᖅᖃᑕᖏᓪᓕᔪᓪᓚᑦ ᑐᙵᔨᕋᐅᑎᓪᓕᐅᖅᑐᓪᓕ ᓚᓪᑕᑕᐅᓪᓚᕆᔨᒃᑯᓪᓕ ᐊᑐᖅᑕᐅᔪᓴᓐᖃᖅᑐᓪᓕ ᐃᖃᓗᓪᓚᕆᓂᕐᓗᓪᓕ ᐱᖁᔭᐅᔪᑦ ᐊᒻᒪ ᐃᒪᖏᐅᑕᓪᓚᕆᔨᒃᑯᓪᓕ ᐱᓪᓚᐊᖅᑐᑦ ᐅᖃᐅᔾᔨᒃᑯᓪᓕ ᐊᑦᑐᐃᔭᔪᐅᔪᓂᖏᓐᓄᓪᓕ ᐃᒪᓐᓇᖅᑐᑦ ᐊᑦᑐᐅᔪᓴᓐᖃᖅᑐ

IQA1626) by October 5th, 2026. This submission summarizes Fisheries and Oceans Canada Fish and Fish Habitat Protection Program's (DFO) comments and recommendations submitted throughout the renewal and amendment process based on DFO's departmental mandate under the *Fisheries Act*, specifically the management and protection of fish and their habitat in Canadian waters.

Specifically, this submission focuses on information provided in the Proponent's Water Licence Renewal and Amendment Application, the Proponent's July 22, 2026 responses to Technical Review Comments, the commitments generated during the Technical Meeting on August 11-12, 2026, and the Proponent's Amended License Draft. The purpose of this submission is to provide DFO's advice to the NWB regarding the adequacy of the provided information and to identify potential impacts to fish and fish habitat associated with the project. DFO's comments DFO-01 to -03 were raised during the technical review process and are ongoing or will be resolved through DFO's *Fisheries Act* Authorization process. They are included in this submission to reiterate DFO's position following the Proponent's response. DFO also submits three additional comments (DFO-04 to -06) for the Board's consideration regarding the Draft License provided by the Proponent.

2. Mandate, Relevant Legislation and Policy

Fisheries and Oceans Canada's Fish and Fish Habitat Protection Program (DFO) is dedicated to conserving, protecting and restoring fish and fish habitat for future generations in a way that respects Indigenous rights and supports sustainable development. This contributes to the broader DFO mandate of ensuring that Canada's oceans and other aquatic ecosystems are protected from negative impacts to ensure healthy biodiversity, prevent the spread of invasive species, protect species at risk and promote sustainable fisheries. FFHPP protects and conserves fish and fish habitat by administering and promoting compliance with the *Fisheries Act*, the *Species at Risk Act*, and associated regulations, including:

a. the fish and fish habitat protection provisions of the *Fisheries Act*;
b. the *Species at Risk Act*, including prohibitions against:
    i. killing, harming, harassing, capturing, or taking listed aquatic species at risk;
    ii. damaging or destroying their residences; and
    iii. destroying their critical habitat; and
c. the *Aquatic Invasive Species Regulations*, including prohibitions on the introduction and spread of aquatic invasive species.

3. Final Submission

Review Comment Number	**DFO-01**
Subject/Topic	Use of Explosives
References	• City of Iqaluit WL Renewal and Amendment Main Application Document and Appendix 19-LTWP Preliminary Design Report – Appendix J - Preliminary Blast Assessment • Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky, 1998) • Monitoring Explosive-Based Winter Seismic Exploration in Waterbodies, NWT 200-2002 (Cott and Hanna, 2005)
Comment / Request	As part of their response to DFO's first round of Information Requests, the City of Iqaluit committed to limiting water overpressures to 50 kPa at the location of a live fish, consistent with DFO guidance. DFO recommends modelling to demonstrate blasting thresholds are met as well as proposed mitigation measures (e.g., timing windows, use of blast mats, isolation) and any monitoring plans to verify that impacts are avoided or minimized. DFO recommends those requests be included in the project's Preliminary Blast Assessment, however, any issues that cannot be fully resolved through the Board's process can continue to be addressed through DFO's regulatory review.
City Response	The agreed upon 50 kPa overpressure limit will be integrated into the detailed design. The City will continue to engage the DFO regarding any proposed blasting in close proximity to fish-bearing waters.
Status:	Resolved in part. DFO reiterates the Proponent should provide blasting overpressure and vibration modelling to demonstrate expected overpressures and ground vibrations at the nearest waterbodies. If modelling indicates a potential to approach or exceed recommended thresholds, then provide supporting information such as minimum setback distances, charge per delay limits, and proposed mitigation, monitoring and contingency measures to demonstrate how compliance will be achieved. This information can also be provided through the ongoing DFO's regulatory review process.

Review Comment Number	**DFO- 02**
Subject/Topic	Water Withdrawal from the Apex River
References	• City of Iqaluit WL Renewal and Amendment Main Application Document and Appendix 33 • Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada (DFO, 2013)
Comment / Request	The City of Iqaluit proposes to withdraw from the Apex River less than 10% of instantaneous discharge when flow is between 0.143 m^3/s and 0.156 m^3/s (between 30% and 33% of the Mean Annual Discharge (MAD)), or up to 20% instantaneous discharge when flow exceeds 0.156 m^3/s (>33% MAD). Although DFO's *Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada* indicates that cumulative flow alterations of less than 10% of the instantaneous flow relative to the natural flow regime are generally associated with a low probability of detectable impacts to fisheries-supporting ecosystems, the proposed pumping protocol would exceed this screening threshold during periods when Apex River discharge exceeds 0.156 m^3/s (>33% MAD), allowing withdrawals of up to 20% of the instantaneous discharge. The Apex River provides important spawning, migration, and residence habitat for Arctic Char; therefore, reductions in available flow may affect fish and fish habitat through mechanisms such as habitat loss or reduced fish passage. Stantec's 2023 *Analysis of Fisheries and Hydrologic Information of Apex River* (Attachment 33) concluded that the proposed pumping protocol is unlikely to result in adverse effects on fish and fish habitat in the Apex River. This assessment was determined through hydraulic and habitat modelling informed by baseline field surveys. DFO notes that uncertainty remains regarding the accuracy of the modelling results, as no field monitoring was conducted during pumping operations to verify model predictions under withdrawal conditions. In addition, the proposal does not include a monitoring program to verify the predicted effects of water withdrawals on fish

	and fish habitat, nor does it identify contingency measures should monitoring indicate adverse effects. DFO recommends that the proponent: • Implement field monitoring during withdrawal periods to demonstrate that thresholds are not exceeded, confirm hydraulic conditions are as expected, and identify adverse effects to fish or fish habitat (e.g., fish stranding, barriers to migration, reduction of wetted area). • Update hydraulic modelling to assess the effects of reduced flows on depth, velocity, and wetted area in the Apex River and evaluate whether changes may create barriers to fish migration or result in loss of fish habitat. • Establish contingency measures (e.g., reduction or cessation of withdrawal rates) that will be implemented if monitoring detects adverse effects to fish or fish habitat.
City Response	The City extracted between 18% and 42% (an average of 31%) of flow in the Apex River under an emergency amendment to the water licence and under emergency Fisheries Act Authorization – Emergency Circumstances 22-HCAA-02043 (DFO 2022) over a 7-day period from Sept 13-19, 2022. Baseline fish habitat within the Apex River was studied and reported on (Attachment H), and separately, a monitoring program was undertaken during the pumping operation to detect impacts to fish and fish habitat (Attachment I). Wetted width, water level/depth, habitat conditions, and fish presence were monitored at one upstream location, at the pumping location, and at five downstream stations on the Apex River. Most percent differences measured or these parameters were within 10% of the previous value measured, except for one location downstream of a large pool (which should be insensitive to hydrological changes), where larger differences were attributed to measurement error. The consultant conducting the monitoring concluded that no documented impacts to fish and fish habitat occurred, and that no fish or fish habitat offsetting requirements are needed per the FAA (Nunami Stantec, 2023; Attachment H). Based on the monitoring conducted in 2022 higher extraction rates than are being proposed with the LTWP, field monitoring is not warranted.

	Hydraulic modelling was also completed in the report referenced above, and he City suggests that hydraulic modelling is not required. Most likely the contingency measures to be implemented if monitoring indicates that non-predicted adverse effects to fish or fish habitat are occurring when pumping will be as follows: 1) Temporarily cease pumping to allow water levels to reestablish to what would normally occur. 2) If fish stranding is observed, capture and liberate the stranded fish. 3) Resume pumping at a lower rate and monitor streambed conditions.
Status:	Ongoing: DFO is awaiting further discussion of hydraulic modeling and monitoring plans to reach agreement with the Proponent. DFO maintains that a monitoring plan for water withdrawal from the Apex (Niaqunguk) River is necessary for adaptive management of water flows to avoid harm to fish habitat. Water withdrawal over a period of twenty years will involve greater variability in climatic influences and flow levels within the river than could be represented in the results attained over 7 days in 2022. Furthermore, DFO recommendations for a monitoring plan during water withdrawal periods is consistent with requirements to other Proponents water use on similar scales. Additional conversations with the Proponent are needed to develop a plan that is feasible for the Proponent and to the satisfaction of DFO. DFO further notes that any determination of harmful impacts to fish and fish habitat would be addressed DFO's regulatory review process and the potential application for authorization under the *Fisheries Act*.

Review Comment Number	**DFO- 03**
Subject/Topic	**Water Withdrawal from Lake Qikiqtalik**
References	• City of Iqaluit WL Renewal and Amendment Main Application Document and Appendix 32 • Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada (DFO, 2013)
Comment / Request	The City of Iqaluit proposes to withdraw, through the open-water season, 1.1 million m^3/year of water from Lake Qikiqtalik, which is a fish-bearing lake (i.e., inhabits Arctic Char). This represents 20% of the lake's volume.

	Water withdrawal may affect fish and fish habitat through reductions in water levels, changes in downstream flow conditions, and loss or alteration of littoral habitat. In addition, water withdrawal activities can cause direct fish mortality through stranding, entrainment, or impingement. Littoral areas provide important spawning, rearing, feeding, and refuge habitat for fish, and reductions in water levels may decrease the availability or suitability of these habitats, resulting in habitat dewatering or fish stranding. Water level reductions may also influence outflow conditions at the lake outlet by reducing discharge and altering channel depth and velocity. These changes could affect fish movement between Lake Qikiqtalik and downstream habitats and may reduce the availability of connected aquatic habitat. No information was provided by the City of Iqaluit on potential effects to littoral and downstream habitat or seasonal habitat availability during open water periods. DFO recommends that the proponent: • Demonstrate that proposed maximum withdrawal rates from Lake Qikiqtalik will not adversely affect outlet flow conditions, or in barriers to fish migration. • Provide details on potential changes in habitat caused by water withdrawal over operational seasons, including loss of nearshore lake areas and changes to depth. This should include a review of annual recharge capacity and whether ongoing withdrawals over multiple years could result in lake levels falling below the threshold used in the assessment. • Implement monitoring of water withdrawal activities at Lake Qikiqtalik shoreline and outlet to confirm that withdrawal does not result in alterations or loss of habitat or outflow conditions. Monitoring should focus on shoreline exposure, fish stranding observations, water levels, annual recharge patterns, and outlet depth/velocity during periods of active withdrawal, and be used to verify that modelled predictions accurately reflect site conditions. Establish contingency measures (e.g., reduction or cessation of withdrawal rates) that will be implemented if monitoring detects adverse effects to fish or fish habitat. In closing, DFO further notes that any determination of harmful impacts to fish and fish habitat would be addressed through the DFO regulatory

	process, including a review of a Proponent submitted Request for Review form and the potential application for authorization under the *Fisheries Act* to Harmfully Alter, Disrupt, or Destroy fish habitat.
City Response	The fish & fish habitat report (Attachment 40) notes that the outlet of Lake Qikiqtalik is mainly subsurface beneath cobbles and boulders, and that this combined with the steep slope make it unlikely that fish can use the tributary for fish passage. The Lake Qikiqtalik water withdrawal study (Attachment 34) notes that the entire channel between Lake Qikiqtalik and the Apex River is characterized by defined channel sections where the water is visible at the surface and ill-defined channel sections characterized by boulder fields where the water is flowing below the surface. Hence, impacts to fish and fish habitat within this drainage between the lake and the river are negligible. As noted in the Apex River water withdrawal study (Attachment 37), the catchment area of the Apex River at the confluence consists of a 3,602 ha mainstem catchment, a 634.4 ha Lake Qikiqtalik catchment, and another 669.7 ha catchment between the outlet of Lake Qikiqtalik and the Apex confluence (see Figure 3-2 in Attachment 37). Thus, Lake Qikiqtalik represents about 13% of the total flow in the Apex River at the confluence. Withdrawals from Lake Qikiqtalik are expected to occur during freshet in June, when there is an excess of water throughout the system. Modelling assumes that the lake elevation will return to the spill elevation of El. 203 m, which is a reasonable assumption. Targeting water withdrawals during freshet, when lake water levels are high and discharges to the downstream are their highest, will ensure that the lake will not be drawn down to the spill elevation. The requirement for a monitoring program will be discussed with the DFO. Contingency measures will be developed in consultation with the DFO.
Status:	Ongoing: DFO is still awaiting conversations on flow rates that will not adversely affect outlet flows, on a monitoring program, and contingency measures.

	Despite barriers to fish passage, maintaining outlet flows will preserve what habitat fish can access from either direction.

Review Comment Number	**DFO-04**
Subject/Topic	Draft License: Water level reductions in the Niaqunguk (Apex) River and Lake Qikiqtalik
References	• Draft Water Licence, Part D: Conditions Applying to the Use of Water and Water Management, Condition 1 and Condition 10
Comment / Request	DFO recommends retaining Condition 10 in Part D of the Draft Water License, and broadening it to include Lake Qikiqtalik. Specifically, DFO recommends retaining the statement "*If, at any time, Fisheries and Oceans Canada advises the Licensee that due to potential effects on fish or fish habitat the withdrawals from the Niaqunguk River* [and/or Lake Qikiqtalik] *are no longer acceptable, the withdrawals must cease until Fisheries and Oceans Canada indicated that withdrawals can resume*". A comment on Condition 10 indicates it has been incorporated into Condition 1. While parts of it has been incorporated (i.e., conditions surrounding 30% MAD), the statement above was not. DFO recommends either the retention of Condition 10 entirely, or incorporating the above statement into Condition 1.

Review Comment Number	**DFO-05**
Subject/Topic	Draft License - Part D: Withdrawal Rules
References	• Draft Water License, Part D: Conditions Applying to the Use of Water and Water Management Plans, Condition 1
Comment / Request	DFO notes that in Part D, Condition 1 of the Draft Water License with regards to withdrawal from Lake Qikiqtalik, that withdrawal rules are "to be discussed with DFO". DFO has yet to discuss these rules with the Proponent and further information requested in DFO-03 is required in order to inform these conditions.

	Once the additional information requested in DFO-03 is provided, DFO will discuss water withdrawal rules specific to Lake Qikiqtalik to be included in Part D of the Water License.

Review Comment Number	**DFO-06**
Subject/Topic	Draft License - Part I: Monitoring Conditions
References	• Draft Water License Framework, Part I: Conditions Applying to Monitoring, Item 1
Comment / Request	The current Draft License does not include robust monitoring for impacts to fish and fish habitat and only requires reporting of cubic metres withdrawn annually. DFO recommends the following monitoring requirements be included in Part I of the License: A description of monitoring during periods of water withdrawal to verify model prediction and detect potential effects on fish and fish habitat including: • field monitoring of depth, velocity, and wetted area in the Apex River, including identification of potential areas where reduced flows may create barriers to fish movement; • monitoring of Lake Qikiqtalik littoral habitat extent, shoreline and outlet conditions, including water levels, shoreline exposure, outlet depth/velocity and fish stranding observations, and; • contingency measures, including reducing withdrawal rates if monitoring indicates adverse effects to fish and fish habitat exceeding that which is permitted. The inclusion of these monitoring requirements will provide greater confidence in the predicted impacts to fish and fish habitat.